Chapter 3

OBJECTIVES

AND

RESEARCH METHODOLOGY
3.1 The concept of Research

The Webster’s Dictionary defines research as a studious, systematic investigation or enquiry to ascertain, uncover or assemble facts used as a basis for conclusions or formulation of theory. The word ‘research’ is a combination of two words ‘re’ and ‘search’, which literally mean to search again or to search afresh. The search may be for new facts or new set of facts per se and the new facts may be such which may alter, modify or challenge existing beliefs or conclusions in any area of human knowledge or activity. Dr. Gupta, S. (2001, p.1) defines research as “any scholarly investigation in search for truths, for facts, for certainties”. To Kothari, C.R. (1990, p.1) it is a “voyage of discovery”. He further elaborates that “we all possess the vital instinct of inquisitiveness… This inquisitiveness is the mother of all knowledge”. In the celebrated Encyclopedia of Social Sciences, Slesinger, D. and Stevenson, M. (1930) look upon research as the “manipulation of things, concepts or symbols for the purpose of generalizing to extend, correct or verify knowledge whether that knowledge aids in construction of theory or in the practice of an art”. In this context, the names of research scholars like Lundberg, J.W. Best, P.M. Cook, C.C. Crawford, J. Francis Rummel, Clifford Woody, R.M. Hutchins and Rusk
come to mind. In a multi-faceted observation, Michael, V.P. (2000, p.2) records that “Research is the process of systematic and in-depth study or search for any particular topic, subject or areas of investigation, backed by collection, compilation, presentation and interpretation of relevant details or data. It is careful search or inquiry into any subject or subject-matter which is an endeavour to discover or find out valuable facts which would be useful for further application or utilization. Research may involve a scientific study or experimentation, and result in discovery or invention, which would aid either scientific development or decision making. It may be concerned with general, abstract or concrete subjects. There cannot be any research which does not increase knowledge or improve scientific knowledge. A research that involves scientific analysis would result in the formulation of theories, discover of new ideas or techniques, modification of old concepts or knocking-off an existing theory, concept or technique. It may develop hypothesis and test it. It may also establish relationships between variables and identify the ways and means for problem solving”. In conclusion, we agree with Kothari (ibid) that the term “research” encompasses a “systematic method consisting of enunciating the problem, formulating a hypothesis, collecting the facts or data, analyzing the facts and reaching certain conclusions either in the form of solutions towards the concerned problem or in certain generalizations for some theoretical formulation.”
3.2 Research in Natural Sciences Vs Research in Social Sciences

In the literature, we have come across only two broad classifications of research which are as given below:

i) Research in Natural Sciences like Physics, Chemistry, Astronomy, etc.

ii) Research in Social Sciences

In the context of Natural Sciences, various phenomena can be studied in a laboratory under controlled conditions. The work of Sir Isaac Newton relating to Laws of Motion (in Physics), Lavoisier in Chemistry and Galileo in Astronomy fall in this category. However, in Social Sciences, the studies are focused on human behaviour in a social setting. But one cannot bring a piece of society to the laboratory and study its behaviour in the controlled environment of a laboratory. Human behaviour in a social setting can be studied only in the wide open world. Further, human behaviour is a complex phenomenon born out of interaction between social, economic, psychological, temperamental, genetic and physical factors. Research in Social Sciences or Social Research is that body of Research which analyses human behaviour as a part of society.  

5The famous social researcher, Young, Pauline V. (1960)
looks upon social research “as a scientific undertaking which by means of logical and systematized techniques aims to discover new facts or verify and test old facts, analyse their sequences, interrelationship and causal explanation which were derived within an appropriate theoretical frame of reference, develop new scientific tools, concepts and theories which would facilitate reliable and valid study of human behaviour. A researcher’s primary goal is to explore and gain an understanding of human behaviour and social life and thereby gain greater control overtime.”

Gupta, S. (2001, pp 7-8), in unison with Young, avers that social research is “that part of research which studies human behaviour as a part of society. Social research is to find explanation to unexplained social phenomena, to clarify doubts and correct the misconceived facts of social life”. Kothari, C. R. (ibid, p.8) has highlighted the dual role of research in social sciences in as much as it advances the frontiers of human knowledge in comprehension of complex social phenomena and the whole range of human interactions, and also promotes knowledge for its own sake.

3.3 Characteristics of Research in Social Sciences
In tune with Young’s assertion that social research is a scientific undertaking, research in social sciences partakes of the characteristics of scientific research as applicable to social phenomena or human behaviour with reliability, validity and objectivity as its guiding principles. Accordingly, important characteristics of research in social sciences are indicated below:

1. **Social Research** is undertaken both for discovery of new facts and verification of old facts. The verification of old facts in social sciences is as relevant as the discovery of new facts, new relationships and new laws underlying the social phenomena as social sciences are highly dynamic in nature. This dynamic aspect of social sciences springs forth from the dynamic nature of feelings, responses and attitudes of human beings under different circumstances and different social settings. Thus, if the phenomena under scrutiny display significant variations over a period of time, the validity of old concepts becomes questionable and verification of old facts becomes essential to ensure relevance in a dynamic context. Additionally, verifications also dictated by notable advances in the area of research methodology and the latest techniques ought to be deployed to examine the validity of old concepts.
2. The researcher in social sciences must be imbued with the rigorous mental discipline of the laboratory approach as applicable to natural sciences to ensure objectivity and freedom from personal bias in data collection, analysis and interpretation.

3. Research in social sciences is of an inter-disciplinary nature and embraces deep scrutiny of complex social phenomena involving an active interface between political, socio-economic, educational, organizational, bureaucratic and all relevant aspects of social life of human beings. Because of its inter-disciplinary nature, it is difficult to classify social research as purely political, sociological or economic research.

4. As the social phenomena or human behavior is the subject matter of study in social sciences research, experimentation on the laboratory pattern is not feasible. Yet, the device of control groups or controlled experimentation has been used by some of the researchers.

5. Social Sciences research normally requires, as a preliminary step, a hypothesis or a set of hypotheses focused on a provisional elucidation of a social phenomenon or the tentative solution of a social problem. However, the variable in the social research are not capable of being
measured precisely and only an approximate estimation of the values of the variables is feasible.

6. The underlying process of research in social sciences is designed to ensure objectivity of a high order. In that context, all care is taken to define every term or expression used and to document all references. All inferences drawn are laced with caution on account of the inherent limitations of methodology deployed, data collection and errors of human interpretation.

7. The dynamic nature / context of social research is paramount. Accordingly, what is true of a social phenomenon in the past may not be true in the present.

8. In the context of effectiveness of human interaction in a social setting, there is a marked complimentarily and synergy between research in physical sciences and research in social sciences and both branches of human knowledge reinforce each other and pave the way to progress (S. Gupta, ibid)

3.4 Research Methods and Research Methodology
Saunders et. Al (2003, pp 2, 481) lament that in research literature, the terms “research methods” and “research methodology” have been used rather interchangeably. According to them, it appears that the term ‘methodology’ has been employed as a “more verbose way of saying method”. They have sought to caution the researcher in social sciences to observe precision in the use of these terms. According to them, the expression ‘research method’ refers to the tools and techniques used to obtain and analyse research data including, for example, questionnaires, observation, interviews and statistical and non-statistical techniques. In contrast, the term “research methodology” refers to “the theory of how research should be undertaken including the theoretical and philosophical assumptions upon which research is based and the implications of these for the method or the methods adopted”. Similarly, Kothari, C.R. (ibid, pp 9-11) holds forth the view that the sweep of “research methodology” is much wider than that of “research methods”. He has elaborated that ‘research methods’ “may be understood as all those methods or techniques that are used for the conduct of research. Research Methods or techniques, thus, refer to the methods the researchers use in performing research operations. In other words, all these methods which are used by the researcher during the course of studying his research problem are termed as research methods”. Kothari (ibid) goes on to elucidate that research methodology is multi-dimensional and research methods do constitute a part of research methodology. To him, “Research Methodology” is a way of finding
the solution to a research problem in a systematic manner. It may be understood “as a science of studying how research is done scientifically. In it, we study the various steps that are generally adopted by a researcher studying his research problem along with the logic behind them. It is necessary for the researcher to know not only the research methods / techniques but also the methodology. Researchers not only need to know how to develop certain indices of tests, how to calculate the mean, mode, median or the standard deviation or chi-square, how to apply particular research techniques, but they also need to know which of these methods or techniques are relevant and which are not., and what would they mean and indicate and why. Researchers also need to understand the assumptions underlying various techniques and they need to know the criteria by which they can decide that certain techniques and procedures will be applicable to certain problems and others will not”. In the context of research methodology, he likens the researcher to “an architect who designs a building, has to consciously evaluate the basis of his decisions, i.e. he has to evaluate why and on what basis he selects particular size, number and location of doors, windows and ventilators, uses particular materials and not others and the like. Similarly, in research, the scientist has to expose the research decisions to evaluation before they are implemented”. In conclusion, Kothari (ibid) observes that “when we talk of research methodology, we not only talk of the research methods but also consider the logic behind the methods we use in the context of our research study and explain why we are using a particular
method or technique and why we are not using others so that research results are capable of being evaluated either by the researcher himself or by others”.

Thus, to be valid, reliable and objective, research in social sciences must be in conformity with the scientific approach as outlined in the preceding paras and be suffused with the characteristics of research in social sciences. Simultaneously, the researcher in social sciences ought to remember that a sound research methodology is the sine qua non of soundness of inferences drawn as a result of research.

3.5 Types of Research

In the research literature, research is stated to be of various types depending on the purpose of the research, the process of the research, the logic of the research, the outcome of the research, etc. (see Hussey and Hussey, 1997, pp 9-13) Accordingly, research is classified as under:

i) Exploratory Research
ii) Descriptive Research
iii) Analytical Research or Explanatory Research
iv) Predictive Research
v) Quantitative Research
vi) Qualitative Research
vii) Basic Research (Pure Research or Fundamental Research)
viii) Applied Research
ix) Deductive Research
x) Inductive Research

Exploratory Research

Exploratory research aims to seek new insights into phenomena, to ask questions and to assess the phenomenon in a new light (Robson, 2002). Exploratory research has kinship with the “activities of the traveler or explorer” (Adams & Schaneveldt, 1991). Its principal merit lies in the fact that it is flexible and adaptable to change; yet Adams & Schaneveldt (ibid) argue that flexibility inherent in the exploratory research does not imply any absence of direction. On the contrary, the focus is initially broad and becomes progressively narrower as the enquiry advances. Gupta, S. (ibid, p. 95), in this context, draws on the analogy of a doctor who examines a patient in his clinic when a patient approaches the doctor with his/her ailment. From the doctor’s perspective, he is “systematically exploring the complaints of the patient and is striving to categorize” the symptoms of the patient. Pursuant to such exploration, he will come to a conclusion, at least tentatively, about the disease. Thereafter, he may call for a pathological report. On this basis, Gupta (ibid) infers that “all these steps, starting with the exploratory questions will
help him to arrive at a correct diagnosis. This example will, while making the meaning of exploratory research clear, also point out the inevitability and universality of the exploratory approach, which cuts across the barrier of the natural and social sciences. At this stage, one may be tempted to conclude that the moment one envisages his study as exploratory, the investigator has the absolute freedom for random and endless activity. The social scientist has freedom to follow interesting leads and to utilize his own ingenuity in obtaining information. Yet, the social scientist should exercise judicious temperance in this approach”. In the context of exploratory research studies, Michael, V.P. (ibid, p.48) has indicated that “a specific problem is formulated for precise investigation or a specific hypothesis is formulated from an operational observation. Such studies are therefore known as formulative studies as well. Generally, flexible research designs are popular for exploratory research studies because discovery of ideas and new insights are emphasized. Analyzing relevant examples and cases to stimulate insight, literature survey and evaluating the past experience, etc.; are generally associated with such designs”. While affirming the basic strands of the preceding discussions, Hussey & Hussey (ibid, p.10) observe that “in exploratory research the focus is on gaining insights and familiarity with the subject area for more rigorous investigations at a later stage. Typical techniques used in exploratory research include case studies, observations and historical analysis which can provide both quantitative and qualitative data. Such techniques are very flexible since there are few constraints on the nature of activities employed or on the type of
data collected. The research will assess which existing theories and concepts can be applied to the problem or whether new ones should be developed. The approach to the research is usually very open and concentrates on gathering a wide range of data and impressions”. To Gupta, S. (ibid), the principal advantage of the exploratory method “lies in its ability to generate many ideas that could be further explored in more controlled conditions, apart form overcoming the most difficult portion of an enquiry, which is its initiation. The concluding observations of the authoress are indeed very significant when she holds that “it can be said that no research proposal be aborted for want of methodology, as long as we have the exploratory method, a method which is flexible enough to permit the consideration of many different aspects of a phenomenon. This method attempts to see what there is rather than to predict the relationship that will be found”. Even the need for a working hypothesis has been discounted by Kothari (ibid, p.17) in the case of exploratory or formulative researches as these do not aim at testing the hypothesis.

**Descriptive Research**

Descriptive Research is research which describes phenomena as they exist; it identifies and obtains information on the characteristics of a particular problem or issue (Hussey & Hussey; ibid). However, Saunders et. Al (ibid) defines descriptive research as a type of research the purpose of which is “to produce an accurate representation of persons, events or situations”. According to the
authors, it may be an extension of, or a forerunner to, a piece of exploratory research. To Kothari, C.R. (ibid, p.3) descriptive research includes “surveys and fact finding enquiries of different kinds. In social science and business research, we often use the term Ex post facto research for descriptive research studies. The main characteristics of this method are that the researcher has no control over the variables; he can only report what has happened or what is happening. Most ex post facto projects are used for descriptive studies in which the researcher seeks to measure such items as, for example, frequency of shopping, preferences of people or similar data. Ex post facto studies also include attempts by researchers to discover causes even when they cannot control the variables. The methods of research utilized in descriptive research are survey methods of all kinds, including comparative and correlational methods.” However, Hussey & Hussey (ibid, pp 10-11) are of the view that descriptive research “may answer such questions as:

- What is the absentee rate in particular offices?
- What are the feelings of workers faced with redundancy?
- What are the qualifications of different groups of employees?

The data collected is often quantitative and statistical techniques are usually used to summarize the information. Descriptive research goes further in examining a problem than exploratory research, since it is undertaken to
ascertain and describe the characteristics of the pertinent issues”. According to Saunders et. al (ibid, p. 97), one of the earliest well known examples of a descriptive survey is the Domesday Book which described the population of England in 1085. They have also placed on record their observation that very often “project tutors are rather wary of work that is too descriptive. They will want you to go further and draw conclusions from your data. They will encourage you to develop the skills of evaluating data and synthesizing ideas. These are higher order skills than those of accurate description. Description in management and business research has a very clear space. However, it should be thought of as a means to an end rather than an end in itself.”

Analytical or Explanatory Research

This type of research is a continuation of descriptive research. Analytical / explanatory research encompasses all studies which aim to understand phenomena by discovering and measuring causal relations among them. Thus, the researcher travels beyond a mere description of the characteristics, to analysis and explanation of why or how it is happening. For example, information may be collected on the size of companies and the levels of labour turnover. Analytical research seeks to answer such questions as:

- How can we reduce the number of complaints made by customers?
- How can we improve the delivery time of our products?
A significant element of explanatory research is identification and/or probable control over the variable in a research project, since it enables the researcher to attempt a better explanation of the critical variables or the causal links between the characteristics. (see Hussey & Hussey, ibid) in the same context, Saunders et. al (ibid, pp 97-98) draw attention to the illustrative example that “a cursory analysis of quantitative data on manufacturing scrap rates shows a relationship between scrap rates and the age of the machine being operated. You could go ahead and subject the data to statistical tests such as correlation in order to get a clearer view of the relationship.” Kothari, C.R. (ibid, p.3) looks at analytical research in juxta-position with descriptive research thereby implying that descriptive research does not include analysis of existing quantitative data or establishment of causal relationships between the underlying variables as in the case of analytical research.

**Predictive Research**

Predictive Research, in terms of the exposition of Hussey & Hussey (ibid), has a more extensive reach than the exploratory research. The latter seeks to establish an explanation for what is happening in a given situation, whereas the former attempts to forecast the likelihood of similar situation occurring elsewhere. Predictive research is credited with the potential to generalize from
the analysis by predicting certain phenomena on the basis of hypothesized, general relationships. In the context of functional area of financial management, predictive research can also be used to build up a sensitivity analysis of the profitability of projected industrial projects in order to arrive at a sustainable range of variation in the values of variables like cost of capital, cost of production, product pricing, market potential, etc.; Hussey & Hussey (ibid) have sought to illustrate predictive research by referring to solution of research problems in relevant business related areas such as:

- In which city would it be most profitable to open a new retail outlet?
- Will the introduction of an employee bonus scheme lead to higher levels of productivity?
- What type of packaging will improve the sales of our products?
- How would an increase in interest rates affect our profit margins?

Thus, according to the authors, the solution to a problem in a specific study will be applicable to similar problems elsewhere if the predictive research can provide a valid, robust solution based on a clear understanding of the relevant causes. Predictive research, subject to the aforesaid qualifications, can yield answers to queries like ‘how’, ‘why’, and ‘where’ in the context of current events and similar events in the future. It is also relevant in situations involving questions of ‘what if’ variety. However, the authors have struck a note of
caution against excessive increase in the levels of sophistication in research as the higher the level of sophistication in research, the higher the level of complexity and refinements in details. In this context, they have raised the spectre of failure or non-completion of research.
Quantitative and Qualitative Research

The differentiation between the quantitative and qualitative research is based on the approach or research process chosen by the researcher. Kothari (ibid, p.4) holds forth that Quantitative Research is applicable to phenomena where the underlying variables are capable of measurement and can be expressed in terms of numerical values. In contrast, Qualitative Research is concerned with qualitative phenomena i.e. phenomena relating to or involving quality or kind and by definition are incapable of precise measurement. Whereas a quantitative approach involves collection and analysis of numerical data and application of statistical tests, et, a qualitative approach, being more subjective in nature, involves examination and reflection on perceptions in order to gain an understanding of social and human activities. The same research problem can be tackled, depending on the inclination of the researcher, from the standpoint of quantitative or qualitative approach. As illustrated by Hussey & Hussey (1997, pp 12-13), if the research problem requires a study into stress caused by working night shifts and the researcher adopts a quantitative approach, he may want to collect “objective numerical data such as absentee rates, productivity levels, etc.;” However, if the researcher chooses a qualitative approach, he may “want to collect subjective data about how stress is experienced by night workers in terms of their perceptions, health, social problems and so on”. Kothari, C.R. (ibid p.4) emphasizes that qualitative approach is highly relevant in the behavioural sciences “where the aim is to discover the underlying motives of human behaviour. Through such research,
we can analyse the various factors which motivate people to behave in a particular manner or which make people like or dislike a particular thing

Motivation research, attitude or opinion researches are also examples of qualitative research, which draws heavily on behavioral school of social sciences.

### 3.6 Research Process: A Brief Overview

The research process is comprised of several steps. Kothari, C.R. (ibid, pp 13-15) has, with several qualifications, suggested the following procedural guideline for the following steps in the research process:

1. Formulation of the research problem
2. Extensive Literature Survey
3. Development of the Hypothesis
4. Preparation of the Research Design
5. Determination of Sample Design
6. Data Collection
7. Execution of the Project
8. Analysis of Data
9. Hypothesis Testing
10. Generalization and interpretation
11. Preparation of the report or presentation of the result. However, several steps in the research process are not “mutually exclusive” nor are they separate and distinct. They do not necessarily follow each other in any specific order and the researcher has to be constantly anticipating at each step in the research process the requirements of the subsequent steps. As a detailed exposition of the steps delineated above is outside the scope of this study, only a brief overview has been presented here. However, it is proposed to examine in detail the significance of the hypothesis per se and the principal features of the various sampling techniques deployed in the context of data collection and data analysis.

3.7 Significance of the Hypothesis

Hypothesis can be defined as a set of assumptions provisionally accepted as a basis of reasoning, experiment or investigation. In this context, Kothari, C.R. (ibid, p.17) observes as under:

“The role of the hypothesis is to guide the researcher by delimiting the area of research and to keep him on the right track. It sharpens his thinking and focuses attention on more important facets of the problem. It also indicates the type of data required and the type of methods of data analysis to be used”. Thus, it can be said with impunity that the guiding power of the hypothesis is
immanent in the entire research process. S. Gupta (ibid, p.66) goes a step further when she observes that “hypothesis has a very important place in research although it occupies a very small place in the body of thesis.” It is clear that the power and significance of the hypothesis lies in its subtlety. The author sets out the importance of the hypothesis as under:

1. It provides direction to research. It defines what is relevant and what is not. Thus, economy of time and effort is assured since recourse to irrelevant literature and collection of useless or excess data is avoided.

2. It makes the researcher acutely aware of certain features of investigations found to be relevant from the viewpoint of the research problem under consideration.

3. It stands between ‘precision and haphazardness; between fruitful and fruitless research’

4. It is “a guide to the thinking process and the process of discovery. It is the investigator’s eye – a sort of guiding light in the world of darkness.

5. It sensitizes the researcher to facts and conditions that might otherwise be overlooked.

6. It seeks to focus research. Without it, research would be akin to random and aimless wandering.
7. It makes the research goals clear and specific. Such clarity and specificity of goals provides the researcher with valid criteria “for selecting samples and research procedures to meet these goals”.

8. It integrates the entire research process and performs admirably the function of liking together related facts and information and organizing them into one comprehensible whole.

9. It ensures that the researcher is enabled to clarify the procedures and methods to be used in solving his problem and to rule out methods which are incapable of providing the necessary data.

10. It provides a framework for drawing conclusions. It functions as reference point for data interpretation.

3.8 Sampling and Sampling Techniques

The objective of investigation in social sciences research is to ascertain / discover something about a ‘general class of events, subjects, phenomena or variables’. (Walizer, M.H. and Wienir, P.L.; 1978, pp 423-426) For example, if we are looking into the causes of socially deviant behaviour of delinquency, we will be interested to know about all delinquents and not only a few. Similarly, if we want to know about the relationship between social class and educational attainment, it will be desirable to comprehend these variables ‘for
all people for all time’ and not merely a few people at one point of time. It
cannot be overemphasized that the need for data collection of fundamental
importance irrespective of the research questions and objectives of a research
project. The centrality of data collection is indisputable.

In social sciences researches, there are broadly two methods of data
collection:

a) Census Method or Complete Enumeration Survey

b) Sampling Method or Sampling Techniques.

Saunders et. al (ibid, p 474) have defined ‘census’ as the collection and
analysis of data from every possible case or group member in a population.
Here the term population is ‘a complete set of cases or group members’, which
are the subject matter of a research study or a research project. In that
context, it can as well be described as the ‘target population’ or ‘research
population’ or ‘a universe comprised on all the units of analysis’.

The census method requires data collection and analysis of the entire target
population or of each and every unit of the universe. This method yields more
accurate and precise information as no unit of analysis or element of the
universe is left out. However, where a researcher selects a small group as the
‘representative of the whole universe’, such a small group is known as the sample or the research sample and the method deployed for selecting the sample is known as the sampling method. In the words of P. V. Young (ibid), “a statistical sample is a miniature picture or cross-section of the entire group or aggregate from which the sample is taken”. Gupta, S. (ibid, p.100), in unison and with great precision, holds forth that a sample is a reflection of the universe and bears all the characteristics of the universe”. Using the “set” terminology, sample is a subset of a population”. In other words, a truly representative sample is a microcosm of the universe in all respects.
3.8.1 Census Method Vs. Sampling Method

However, the census method involving enumeration of all the elements in the universe is preferable for researcher if the size of the universe is small. When the sample size ceases to be manageable or, in other words, becomes large, it will be nearly “impossible for a researcher either to collect or to analyze all the data available owing to restriction of time, money, and often access”. Only Governments / big organizations are in a position to afford the amount of time, money, manpower and administrative support which a census method requires when the size of the universe / sample size is large. Sampling technique furnish a “range of methods” that enable the researcher to reduce, to a manageable size, the amount of data he needs to collect by considering only data from a representative subgroup rather than all possible cases of elements in the universe. Even the Central Statistical Organization (CSO) of the Government of India carries out National Sample Surveys both in the population Sector and the Factory Sector and the NSS Estimates have not been very different from the census counts. Where it would be impracticable for a researcher to survey the whole population, he needs to select sample. Sampling will be relevant irrespective of whether is planning to use a “predominantly qualitative or quantitative research strategy”.

Convenience Sampling Method for the Study

There are many sampling techniques as discussed. But for the purpose of Current study convenience sampling is used by the researcher so as to cover all the required areas necessary for the study. Sample sizes of 120 hotels were taken for the study which consists of rated and non rated hotels. These samples were spread all across the Maharashtra, in the cities like Mumbai, Pune, Nashik, Nagpur, Aurangabad, Lonavala, Khandala etc. The list of some rated hotels consider under the sample for survey is given as under

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<th>Hotels in Mumbai</th>
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- Hotel Leela Kempinski
- Hotel Le Royal Meridien
- Hotel Marine Plaza
- Hotel Oberoi Towers
- Ramda Hotel Palm
  Grove

- The Taj Lands End
  Hotel
- Resort Hotel
- Retreat Hotel
- Renaissance Hotel &
  Convention Center
- Sun-N-Sand Hotel
- Tajmahal Hotel
- The Taj President
- Hotel Sea Princess
- The Orchid Hotel

Four Star Hotels
- Quality Inn Parle

Four Star Hotels in Pune
- Hotel Kohinoor Executive
- Hotel Regency
- The Central Park Hotel
- Hotel Aurora Towers
- Hotel Sagar Plaza

Three Star Hotels in Pune
- The Oakwood Hotel

Hotels in Chiplun

Four Star Hotels
- Gateway Riverview Lodge

Hotels in Nagpur

Five Star Hotels
- The Pride Hotel

Hotels in Khandala
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Three Star Hotels

- Days Inn
- Hotel Transit
- Hotel Sahil
- Hotel Heritage
- Hotel Godwin
- Hotel Four Seasons
- King’s International
- Grand Hotel
- Hotel Ajanta
- Hotel Airlink

Two Star Hotels

- Hotel Rama International
- Taj Residency
- Hotel Ambassador Ajanta

Four Star Hotels

- Hotel President Park

Three Star Hotels

- Hotel Aurangabad Ashok

One Star Hotels

- Khemi’s Inn

Other Hotels

- Quality Inn Meadows
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<td>- The Mirador Hotel</td>
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<td>- Hyatt Regency Hotel</td>
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<td>- Lotus Suites Hotel</td>
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<td>- Rodas Hotel</td>
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<td><strong>Apartments</strong></td>
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<td>- Lakeside Chalet apartments</td>
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**Hotels in Lonavala**

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<tr>
<th>5 Star Deluxe Hotels in Lonavala</th>
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<tr>
<td>- Fariyas Holiday Resort</td>
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<th>4 Star Hotels in Lonavala</th>
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<td>2. Hotel Rainbow Retreat</td>
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<td>Hotels in Puttaparthy</td>
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<td>- The Residence</td>
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<td>- Tulip Sahara Hotel</td>
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<td><strong>Hotels in Puttaparthy</strong></td>
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<td>- Sai Renaissance</td>
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<th>Hotels in Alibagh</th>
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<td>- Hotel Big Splash</td>
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<td>- Kashid Beach Resort</td>
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<th>Hotels in Matheran</th>
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<td>- Brightlands Resort</td>
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<td>- Usha Ascot</td>
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<td>- Regal Hotel</td>
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<td>- Richie Rich Resort</td>
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<td>- The Byke</td>
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| Hotels in Ahmednagar          |
- **Sun N Sand Hotel**
3.9 Problem Formulation for the Present Study

Hospitality or Hotels is a dynamic and prosperous industry worldwide and the demand for such service sector is continuously growing. The service sector is all set to take over the conventional industry/sectors globally and India cannot be an exception to this. If we evaluate the future trends in the Indian marketplace, following salient features are observed –

- The contours of world economy have changed radically over the past few years as a large number of countries have embarked upon dramatic transformation from command economics to free economies.
- The worldwide trend of privatization of public corporations, deregulation of industries, opening up of economy for the hospitality industries and investment have turned the world into 'global village'.
- Liberalization resulting into the industrial development has acted as a harbinger to the development of the services such as transportation, communication, financial and banking and hospitality services.
- India with its more than two fifty million strong middle class income population having larger amounts of disposable income to be spent on personalized services have made the services sector most lucrative.
3.9.1 Necessity of the Study

Hospitality industry is playing the vital role in the economy of the country. Also making a significant contribution in the country's GDP.

With the review of literature which is discussed in the next chapter of the thesis it is revealed that Six Sigma has really done wonders in the manufacturing sectors. There was a myth that it cannot be used in the service industries, but some of the areas where it has been applied has given a tremendous result and also shown that Six Sigma can be applied effectively to the service industries.

Looking at the future opportunity of hospitality industries researcher feels that with the application of Six Sigma in the hospitality industries will enhance the business opportunities for the benefit of the country.
3.10 Objectives of the Study

The basic purpose of this study was to develop strategies for sustainable development with the help of Six Sigma in Hotel industries in India.

Six Sigma methodologies will be applied as a "mother technology" to a wide range of industrial and service fields. Responding to new needs occurring in service industry and our daily life and as a result of huge demand in the future the sophistication of the technology, education and business itself, the demand for quality services in Hotels will expand wider and wider the scope of its applications and the Six Sigma methodology will accordingly experience greater demands. On this background the objectives of the study were as under

Broadly the objectives of this study are to find Effective way of Implementing Six Sigma to Hotels and Resorts in the following Areas as under:

- Hotel-wide
- Front Office Operations/ Sales & Marketing
- Food and Beverage Service / Production
- Accommodation Operation (Housekeeping)
- Purchase/Stores
- Human Resources/ Personnel
The present study is to fulfill the following objectives-

Primary Objectives

1. To study the Six Sigma Process in detail and analyze its applicability to service industry.
2. With the application of Six Sigma finding the possible solutions to the general marketing problems of this industry and to give suitable suggestions.
3. To study in detail the marketing strategies adopted by the Hotel Industry in their respective profit centres.

Secondary Objectives

1. To find out the importance of the human interface in this industry and its effective utilization for the increase the business.
2. To identify the general problems faced in marketing of their services.
3. To understand the present and future needs of the customers.
3.11 Hypotheses

In order to guide the study, following hypotheses has been chosen.

1. Customers are able to distinguish quality Services.

2. Quality of services in Hotels & Resorts can be improved using Six Sigma Methodologies.

3. Improvement in Service Quality will lead to enhanced customer satisfaction.

Going with the hypothesis taken above the null hypothesis is described and defined as shown under hypotheses description. The null hypotheses are represented by $H_0$. 

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Hypotheses Description

In order to focus more strategically to conclude in more effective way, above hypotheses has been explained as under:

1. **Customers are able to distinguish Quality Services.**
   
   This hypothesis was statistically stated as
   
   \[ H_0 : \text{Customers are not able to distinguish Quality Services.} \]

2. **Quality of services in Hotels & Resorts can be improved by using Six Sigma Methodology.**
   
   This hypothesis was statistically stated as
   
   \[ H_0 : \text{Quality of services in Hotels & Resorts cannot be improved by using Six Sigma Methodology.} \]

3. **Improvement in Service Quality will lead to enhanced customer satisfaction.**
   
   This hypothesis was statistically stated as
   
   \[ H_0 : \text{Improvement in Service Quality will not lead to enhanced customer satisfaction.} \]
3.1 Scope of the Study

Temporal Scope

For the purpose of data collection and study, initially it was proposed that, mainly the duration of 1996 to 2006 (i.e. 10 years) will be considered. However, during the course of study, considering the availability of the data and to keep up with the latest references, a period of 1995 to 2008 has been considered. For the purpose of estimating the demands in the hospitality industries, the same duration is considered. Considering changes in tourism industry and upgradation, few services were launched after year 2000. The evaluation of the data is for the duration of 2000 – 2005 has been considered.
Literature, published or unpublished, during the time span of 1970 to 2006 has been reviewed. Wherever necessary, a reference has been made about the history Six Sigma and Hospitality industry worldwide.
Geographical scope

The present study is carried out only for the Maharashtra state in India. Hence for the purpose of data collection, the cities leading in the field of Hospitality Industries were taken into consideration, like Mumbai, Pune, Nashik, Aurangabad, Nagpur etc. Hill Stations like Lonavla, Khandala, Mahabaleshwar etc. is also taken as a area for study. However, more emphasis has been given on the Cities like Mumbai and Pune in the state as these are considered as the business hub and education city for India.

As Hotel industry in India is spread across the country, the scope becomes even more widen for the purpose of the study.

Functional scope

The purpose of the study is to go into the depth of the application of Six Sigma in service industries and to find the marketing strategies of leading Hotels & to obtain a guideline for the future development of the Hotel industry in India by accurately analyzing the data on the past and
present situation of the quality trends in Hotel Industry. This study also aimed at developing strategies for sustainable development with the help of Six Sigma in Hotel industry in India.

### 3.2 Research Design

The present study is exploratory cum diagnostic in nature. Appropriate data has been collected at three different levels.

1. **Rated Hotel Industries (Includes 5 Star, 4 Star, 3 Star Categories)**: India in the area of Hospitality industries has many rated Hotels. A sample survey has been conducted through structured questionnaire to collect primary data regarding their services, customers, markets, marketing strategies and other relevant factors.

Secondary data has been collected from the publications and records of the concerned departments and area.
2. **Non Rated hotels (Includes Government Approved and Budget Hotels):**
Several Hotels in industrial centers, government and non-government IT industries are involved in the revenue generation with Hospitality business. A survey of all such hotels has been conducted through questionnaire and unstructured interviews focusing on relevant issues and their specialty.

Secondary data has been collected from journals, news bulletins of the universities/research institutions.

3. **Clients (Includes Normal and Corporate Customers):** To know the details of the status and services demanded by the customers of these industries in various cities and from various parts of India, a study of the respective clients from corporate sectors and normal clients has been conducted.

Primary data has been collected through e-mail questionnaires and telephonic interviews of the key people from amongst the representatives of the associations. Secondary data has been collected from the records and publications.
Apart from these, unstructured interviews of the knowledgeable people in the Service industry have been conducted to know more about relatively unknown aspects of the Hospitality industry.

Profile of the Respondents

In Maharashtra, presently, there are more than 100 hotel industries (includes rated, non rated and budget category) engaged in hospitality sector. Entire geographic area of the country was divided into five regions i.e North, South, East, West and Central region. Western region is the main source of revenue generation in hospitality industry, emphasis given in this area for the study. While framing these geographical regions, those cities in which hotel units are making their presence felt and having opportunities are only considered. North region is the largest geographical region and includes States like Uttar Pradesh, Jharkhand, Haryana, Delhi, Punjab and Rajasthan. South region includes the States like Andhra Pradesh, Tamil Nadu, Karnataka, Kerala and a Union territory Pondicherry. East region includes only one State i.e. West Bengal. Western region includes the State of Maharashtra, whereas the Central region covers the States of Madhya Pradesh and Gujarat. Table 3.1 details the spread of hospitality industries.

Table 3.1: Geographic Spread of Hospitality Industries in India

<table>
<thead>
<tr>
<th>Region</th>
<th>State / Union Territory</th>
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Source: Market Reaserch Division, 2009-2010, Ministry of Tourism, Govt. of India, JJ Offset Printers, New Delhi, July 2010.

**Data Collection Tools**

A sample survey has been conducted at three different levels. For data collection from Rated Hotel Industries (Includes 5 Star, 4 Star, 3 Star Categories), a structured questionnaire was used. Initially mail questionnaires were sent to the respondents with self addressed envelopes included for returning the completed questionnaire. However, considering the resultant low rate of return, it was decided to visit the places to collect the data. During the personal visits, every assistance was rendered to the respondents including recording the replies.

Questionnaires were constructed based on the general conception and literature review. Initially a pilot survey was conducted to test the questionnaire...
by contacting 10 respondents in the vicinity. This pilot survey was the replica and rehearsal of the main survey. Subsequent to analysis of their difficulties and responses, based on the experience gained, the questionnaire was modified.

The questionnaire was carefully constructed believing that it was the heart of the survey operation. It was a structured questionnaire consisting of both close ended and open ended questions. The closed ended questions were either of Yes/No type or with multiple-choice. Open ended questions were to invite free response of the respondents on various issues, basically to have qualitative responses. The questions were presented with exactly the same wording and in the same order to all respondents.

Personal and telephonic unstructured interviews of experts and knowledgeable people in the hotel industry were conducted for greater insight into the subject. This sort of interviews was in the form of personal investigation. Flexibility of the approach was ensured as every respondent was having a different specialty and different background.

Data Analysis & Interpretation

The collected quantitative and attribute type data was processed through series of data analysis operations like editing, coding, classification and
tabulation required for Six Sigma analysis. Errors and omissions were removed and appropriate corrections were done wherever possible. Editing involved a careful scrutiny of the completed questionnaires. Through editing, it was ensured that the data are accurate, consistent with other facts gathered, uniformly entered, as complete as possible and have been well arranged to facilitate coding and tabulation.

During classification, the raw data was reduced into homogeneous groups to get meaningful relationship. The data was arranged based on common characteristics. Raw data was summarized and displayed in the form of tables during tabulation. In order to facilitate the work, a tally sheet was used with frequency counts.

Analysis of the quantitative type data was done using measures of central tendency like mean, mode and median. In case of multivariate data, cross tabulation was preferred. For analysis of questions where respondents were required to give preferences, weighted preferential indices were used to ascertain the exact significance of an alternative.

Presentation of the findings was done using bar graphs, pie charts and other forms of presentation including line charts for indication of trend.
3.14 Limitations of the Study

1. Hotel Industry in India is still in its growth phase. As such not much research has been done on this industry. Very few result, and secondary data is available. Findings and suggestions entirely depend on the information given by the hotel owners, employees and the customers.

2. Security in Hotels suddenly becomes an important issue after 9/11 attack in Mumbai, could not be taken into consideration for the study. Application of Six Sigma on Security can be a new research itself.

3. The reliability of the study may depend on the authenticity of the information supplied by the respondents. Most of the respondents were highly placed executives in the hotel industry and research organizations. Interaction with them was governed by the time constraint factor. However, every effort was made to secure their time and cooperation to the satisfaction of the researcher.

4. As the study required data from all over the country, cost and time constraints may affect the effectiveness of the study though every attempt has been made to keep the spirit of the objectives and research methodology.

5. All facts gathered during the course of the study could not be reported in this thesis due to space constraints.

***
References


